WHAT IS CLAIMED IS:

1. A method for protecting from the loss of data in an optical data network, comprising:

receiving the data over a service optical fiber line;

delaying reception of the data over a protection optical fiber line by a first delay amount with respect to the reception of the data over the service optical fiber line;

detecting a fault condition in the service optical fiber line; and

receiving the transmission of data over the protection optical fiber line in response to the detection of the fault condition,

wherein the first delay amount corresponds to at least the amount of time to switch to the reception of the data over the protection optical fiber line from the reception of the data over the service optical fiber line after the detection of the fault condition.

2. A method as recited in claim 1, wherein the delaying further comprises:

storing a first amount of the data in a buffer coupled to the protection optical fiber line, the first amount of the data corresponding to at least the amount of data that is transmitted over the service optical fiber line during the first delay amount.

3. A method as recited in claim 2, wherein the storing comprises:

converting the data from an optical format to an electrical format;

placing the data in the electrical format into the buffer; and

converting the data in the buffer from the electrical format to the optical format for placement on the protection optical fiber line.

4. A method as recited in claim 1, further comprising:

storing the portion of the data received over the service optical fiber line when the fault is detected;

comparing the data received over the protection optical fiber line to the stored portion of the data; and

synchronizing the stored portion of the data with the data received over the protection optical fiber line based on a result of the comparison.

5. A method as recited in claim 4, wherein the synchronizing comprises:

removing the data received over the protection optical fiber line that has already been received over the service optical fiber line.

6. A method for protecting from the loss of data in an optical data network, comprising:

transmitting the data over a service optical fiber line and a protection optical fiber line; and

delaying the transmission of the data over the protection optical fiber line by a first delay amount with respect to the transmission of the data over the service optical fiber line.

7. A method as recited in claim 6, wherein the first delay amount corresponds to at least the amount of time to switch to receiving the data over the protection optical fiber line from receiving the data over the service optical fiber line after detection of a fault condition in the service optical fiber line.

8. A method as recited in claim 6, wherein the delaying further comprises:

storing a first amount of the data in a buffer coupled to the protection optical fiber line, the first amount of the data corresponding to at least the amount of data that is transmitted over the service optical fiber line during the first delay amount.

9. A method as recited in claim 8, wherein the storing comprises:

converting the data from an optical format to an electrical format;

placing the data in the electrical format into the buffer; and

converting the data in the buffer from the electrical format to the optical format for placement on the protection optical fiber line.

10. A system for protecting from the loss of data in an optical data network, comprising:

a transmitting terminal which transmits the data;

a receiving terminal which receives the data transmitted by the transmitting terminal;

a service optical fiber line which propagates the data from the transmitting terminal to the receiving terminal;

a protection optical fiber line which propagates the data from the transmitting terminal to the receiving terminal;

a switch, coupled to the receiving terminal and to the service and protection optical fiber lines, the switch providing data to the receiving terminal from the service optical fiber line during normal operation and from the protection optical fiber line when a fault is detected in the service optical fiber line; and

a delay circuit for delaying the transmission of the data propagating on the protection optical fiber line.

11. A system as recited in claim 10, wherein the delay circuit imparting a delay amount at least equal to an amount of time between the detection of the fault in the service optical fiber line and the switch providing data to the receiving terminal from the protection optical fiber line.

12. A system as recited in claim 10, wherein the delay circuit comprises:

a buffer, coupled to the protection optical fiber line, which stores a first amount of the data prior to the data being transmitted over the protection optical fiber line, the first amount of the data corresponding to at least the amount of data that is transmitted over the service optical fiber line during the delay amount.

13. A system as recited in claim 12, wherein the delay circuit further comprises:

a first converter which converts the data from an optical format to an electrical format prior to placing the data in the buffer; and

a second converter which converts the data in the buffer from the electrical format to the optical format prior to placing the data on the protection optical fiber line.

14. A system as recited in claim 10, further comprising:

a storage device which stores the portion of the data received over the service optical fiber line when the fault is detected;

a comparator which compares the data received over the protection optical fiber line to the portion of the data stored in the storage device; and

a synchronization circuit which synchronizes the portion of the data stored in the storage device with the data received over the protection optical fiber line based on a result of the comparison.

15. A system as recited in claim 14, wherein the synchronization circuit comprises:

a sub-circuit configured to remove the data received over the protection optical fiber line that has already been received over the service optical fiber line.

16. A system as recited in claim 10, wherein the transmitting terminal comprises:

first and second transmission control devices; and

first and second line terminating equipment coupled to a respective one of the first and second transmission control devices and coupled to a respective one of the service optical fiber line and the protection optical fiber line.

17. A system as recited in claim 16, wherein the delay circuit is located in one of the first and second transmission control devices.

18. A system as recited in claim 16, wherein the delay circuit is located in the first or second line terminating equipment that is coupled to the protection optical fiber line.

19. A system as recited in claim 16, wherein the first and second transmission protocol devices are one of a SONET box, an SDH box and an IP router.

20. A system for protecting from the loss of data in an optical data network, comprising:

a receiving terminal which receives the data from one of a service optical fiber line and a protection optical fiber line;

a switch, coupled to the receiving terminal and to the service and protection optical fiber lines, the switch providing data to the receiving terminal from the service optical fiber line during normal operation and from the protection optical fiber line when a fault is detected in the service optical fiber line; and

a delay circuit for delaying the transmission of the data propagating on the protection optical fiber line.

21. A system as recited in claim 20, wherein the delay circuit imparting a delay amount at least equal to an amount of time between the detection of the fault in the service

optical fiber line and the switch providing data to the reception circuit from the protection optical fiber line.

22. A system as recited in claim 20, wherein the delay circuit comprises:

a buffer, coupled to the protection optical fiber line, which stores a first amount of the data, the first amount of the data corresponding to at least the amount of data that is transmitted over the service optical fiber line during the delay amount.

23. A system as recited in claim 22, wherein the delay circuit further comprises:

a first converter which converts the data from an optical format to an electrical format prior to placing the data in the buffer; and

a second converter which converts the data in the buffer from the electrical format to the optical format prior to placing the data on the protection optical fiber line.

24. A system as recited in claim 20, further comprising:

a storage device which stores the portion of the data received over the service optical fiber line when the fault is detected;

a comparator which compares the data received over the protection optical fiber line to the portion of the data stored in the storage device; and

a synchronization circuit which synchronizes the portion of the data stored in the storage device with the data received over the protection optical fiber line based on a result of the comparison.

25. A system as recited in claim 24, wherein the synchronization circuit comprises:

a sub-circuit configured to remove the data received over the protection optical fiber line that has already been received over the service optical fiber line.

26. A system as recited in claim 20, wherein the receiving terminal comprises:

a transmission control device; and

line terminating equipment coupled to the transmission control device.

27. A system as recited in claim 26, wherein the delay circuit is located in one of the line terminating equipment and the switch.

28. A system as recited in claim 26, wherein the transmission protocol device is one of a SONET box, an SDH box and an IP router.

29. A system for protecting from the loss of data in an optical data network, comprising:

a transmitting terminal which transmits the data over a service optical fiber line and a protection optical fiber line; and

a delay circuit for delaying the transmission of the data propagating on the protection optical fiber line.

30. A system as recited in claim 29, wherein the delay circuit imparting a delay amount at least equal to an amount of time between detection of a fault in the service optical fiber line and a switch to receiving data at a receiving terminal from the protection optical fiber line.

31. A system as recited in claim 29, wherein the delay circuit comprises:

a buffer, coupled to the protection optical fiber line, which stores a first amount of the data prior to the data being transmitted over the protection optical fiber line, the first amount of the data corresponding to at least the amount of data that is transmitted over the service optical fiber line during the delay amount.

32. A system as recited in claim 31, wherein the delay circuit further comprises:

a first converter which converts the data from an optical format to an electrical format prior to placing the data in the buffer; and

a second converter which converts the data in the buffer from the electrical format to the optical format prior to placing the data on the protection optical fiber line.

33. A system as recited in claim 29, wherein the transmitting terminal comprises:

first and second transmission control devices; and

first and second line terminating equipment coupled to a respective one of the first and second transmission control devices and coupled to a respective one of the service optical fiber line and the protection optical fiber line.

34. A system as recited in claim 33, wherein the delay circuit is located in one of the first and second transmission control devices.

35. A system as recited in claim 33, wherein the delay circuit is located in the first or second line terminating equipment that is coupled to the protection optical fiber line.

36. A system as recited in claim 33, wherein the first and second transmission protocol devices are one of a SONET box, an SDH box and an IP router.